

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
)
Gabriele PEREGO et al.) Group Art Unit: Not yet assigned
)
Serial No.: Not yet assigned) Examiner: Not yet assigned
)
Filed: December 27, 2001)
)
For: PROCESS FOR PRODUCING)
AN ELECTRICAL CABLE,)
PARTICULARLY FOR HIGH)
VOLTAGE DIRECT CURRENT)
TRANSMISSION OR)
DISTRIBUTION)

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Prior to the examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Please amend the specification as follows:

Page 1, after the Title, insert the following new headings and subheadings and new paragraph as follows:

--CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 60/259,232, filed January 3, 2001, the content of which is incorporated herein by

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reference, and claims the right to priority based on European Application No. 00128566.7, filed December 27, 2000.

BACKGROUND OF THE INVENTION

Field of the Invention--.

Page 1, before line 25, add the following new subheading:

--Description of the Related Art--.

Page 7, before line 24, add the following new section heading:

--SUMMARY OF THE INVENTION--.

Page 10, before line 29, add the following new section heading:

--DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS--.

Page 14, before line 1, add the following new section heading:

--BRIEF DESCRIPTION OF THE DRAWING--.

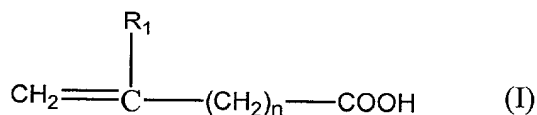
IN THE CLAIMS:

Please cancel now pending claims 1-23 without prejudice or disclaimer and substitute new claims 24-57 therefor as follows:

WHAT IS CLAIMED IS:

24. (New) A process for preparing an electrical cable comprising at least one conductor and at least one layer of extruded insulating coating, comprising:

a) coating, by extrusion, the conductor with a polymeric composition comprising a polyethylene, a radical initiator and at least one unsaturated carboxylic acid of general formula (I) in free form:



in which:

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R_1 represents H or CH_3 ;

n represents 0 or 1;

said unsaturated carboxylic acid being present in an amount of between 0.0006% and 0.25% by weight, said amount being expressed as the weight content of -COOH groups relative to the total weight of the polymeric composition; and

heating the conductor thus coated so as to obtain cross-linking of said polymeric composition.

25. (New) A process according to claim 24, wherein the unsaturated carboxylic acid of general formula (I) is present in an amount of between 0.02% and 0.15% by weight, said amount being expressed as the weight content of -COOH groups relative to the total weight of the polymeric composition.

26. (New) A process according to claim 24, wherein the radical initiator is present in an amount of between 0.5 and 5 parts by weight per 100 parts by weight of the polymeric composition.

27. (New) A process according to claim 26, wherein the radical initiator is present in an amount of between 1.5 and 3 parts by weight per 100 parts by weight of the polymeric composition.

28. (New) A process according to claim 24, wherein the unsaturated carboxylic acid of general formula (I) is added to the polyethylene in the form of granules.

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29. (New) A process according to claim 24, wherein the unsaturated carboxylic acid of general formula (I) is mixed with the polyethylene directly in an extruder cylinder.

30. (New) A process according to claim 24, wherein the polyethylene is an ethylene homopolymer or a copolymer of ethylene with at least one α -olefin having a density of between 0.860 g/cm^3 and 0.940 g/cm^3 .

31. (New) A process according to claim 30, wherein the α -olefin is an olefin of general formula $\text{CH}_2=\text{CH-R}$ in which R represents a linear or branched alkyl group containing from 1 to 10 carbon atoms.

32. (New) A process according to claim 31, wherein the α -olefin is chosen from propylene, 1-butene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-octene or 1-dodecene.

33. (New) A process according to claim 24, wherein the polyethylene is chosen from medium density polyethylene having a density of between 0.926 g/cm^3 and 0.940 g/cm^3 ; low density polyethylene or linear low density polyethylene having a density of between 0.910 g/cm^3 and 0.926 g/cm^3 .

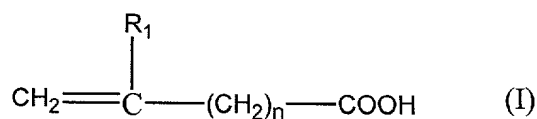
34. (New) A process according to claim 24, wherein the radical initiator is an organic peroxide.

35. (New) A process according to claim 34, wherein the organic peroxide is chosen from dicumyl peroxide, t-butylcumyl peroxide, 2,5-dimethyl-2,5-di (t-butylperoxy) hexane or di-t-butyl peroxide.

36. (New) A process according to claim 34, wherein the unsaturated carboxylic acid of general formula (I) is chosen from acrylic acid or vinyl acetic acid.

37. (New) A process according to claim 36, wherein the unsaturated carboxylic acid of general formula (I) is acrylic acid.

38. (New) An electrical cable comprising at least one conductor and at least one extruded insulating coating layer consisting of a polymeric composition comprising a polyethylene grafted with at least one unsaturated carboxylic acid of general formula (I):



in which:

R₁ represents H or CH₃ ;

n represents 0 or 1;

said unsaturated carboxylic acid being present in an amount of between 0.0006% and 0.25% by weight, said amount being expressed as the weight content of -COOH groups relative to the total weight of the polymeric composition.

39. (New) An electrical cable according to claim 38, wherein the polyethylene is an ethylene homopolymer or a copolymer of ethylene with at least one α -olefin having a density of between 0.860 g/cm³ and 0.940 g/cm³.

40. (New) An electrical cable according to claim 39, wherein the α -olefin is an olefin of general formula CH₂=CH-R in which R represents a linear or branched alkyl group containing from 1 to 10 carbon atoms.

41. (New) An electrical cable according to claim 40, wherein the α -olefin is chosen from propylene, 1-butene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-octene or 1-dodecene.

42. (New) An electrical cable according to claim 38, wherein the polyethylene is chosen from medium density polyethylene having a density of between 0.926 g/cm³ and 0.940 g/cm³; low density polyethylene or linear low density polyethylene having a density of between 0.910 g/cm³ and 0.926 g/cm³.

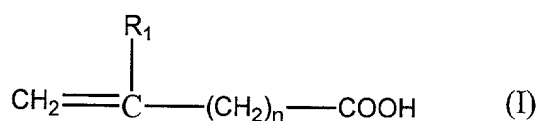
43. (New) An electrical cable according to claim 38, wherein the radical initiator is an organic peroxide.

44. (New) An electrical cable according to claim 43, wherein the organic peroxide is chosen from dicumyl peroxide, t-butylcumyl peroxide, 2,5-dimethyl-2,5-di(t-butyl-peroxy)hexane or di-t-butyl peroxide.

45. (New) An electrical cable according to claim 38, wherein the unsaturated carboxylic acid of general formula (I) is chosen from acrylic acid or vinyl acetic acid.

46. (New) An electrical cable according to claim 45, wherein the unsaturated carboxylic acid of general formula (I) is acrylic acid.

47. (New) A polymeric composition comprising a polyethylene, a radical initiator and at least one unsaturated carboxylic acid of general formula (I) in free form:



in which:

R₁ represents H or CH₃;

N represents 0 or 1;

said unsaturated carboxylic acid being present in an amount of between 0.0006% and 0.25% by weight, said amount being expressed as the weight content of -COOH groups relative to the total weight of the polymeric composition.

48. (New) A polymeric composition according to claim 47, wherein the polyethylene is an ethylene homopolymer or a copolymer of ethylene with at least one α -olefin having a density of between 0.860 g/cm³ and 0.940 g/cm³.

49. (New) A polymeric composition according to claim 48, wherein the α -olefin is an olefin of general formula CH₂=CH-R in which R represents a linear or branched alkyl group containing from 1 to 10 carbon atoms.

50. (New) A polymeric composition according to claim 49, wherein the α -olefin is chosen from propylene, 1-butene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-octene or 1-dodecene.

51. (New) A polymeric composition according to claim 47, wherein the polyethylene is chosen from medium density polyethylene having a density of between 0.926 g/cm³ and 0.940 g/cm³; low density polyethylene or linear low density polyethylene having a density of between 0.910 g/cm³ and 0.926 g/cm³.

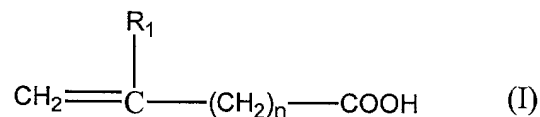
52. (New) A polymeric composition according to claim 47, wherein the radical initiator is an organic peroxide.

53. (New) A polymeric composition according to claim 52, wherein the organic peroxide is chosen from dicumyl peroxide, t-butylcumyl peroxide, 2,5-dimethyl-2,5-di(t-butyl-peroxy)hexane or di-t-butyl peroxide.

54. (New) A polymeric composition according to claim 47, wherein the unsaturated carboxylic acid of general formula (I) is chosen from acrylic acid or vinyl acetic acid.

55. (New) A polymeric composition according to claim 54, wherein the unsaturated carboxylic acid of general formula (I) is acrylic acid.

56. (New) An electric cable made by the process comprising:
- a) coating at least one conductor, by extrusion, with at least one layer of extruded insulating coating of a polymeric composition comprising a polyethylene, a radical initiator and at least one unsaturated carboxylic acid of general formula (I) in free form:



in which:

R₁ represents H or CH₃;

n represents 0 or 1;

said unsaturated carboxylic acid being present in an amount of between 0.0006% and 0.25% by weight, said amount being expressed as the weight content of -COOH groups relative to the total weight of the polymeric composition; and

b) heating the conductor thus coated so as to obtain cross-linking of said polymeric composition.

57. (New) An electric cable made by the process of claim 56, further comprising mixing the unsaturated carboxylic acid of general formula (I) with the polyethylene directly in the extruder cylinder.

REMARKS

The amendment to the specification is made under 35 U.S.C. 119(e)(1) and 37 C.F.R. 1.78(a)(4) to identify the U.S. provisional application and under 35 U.S.C. 119(a)-(d) to identify the foreign priority document benefits of the application.

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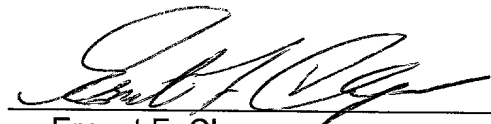
The claims have been amended to eliminate multiple dependency and to conform them to U.S. practice. No new matter has been added.

If there is any fee due in connection with the filing of this Preliminary amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: December 27, 2001

By: 
Ernest F. Chapman
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